

The

On Cost, On Schedule, Built for the Next 50 Years...



Renovator

A Newsletter from the Pentagon Renovation & Construction Program Office

Earth Day Edition

April 2006

SUSTAINABLE CONSTRUCTION SUPPORTED GREEN BUILDING A PRIORITY FOR PENREN



PENREN is charged with transforming the 63-year old headquarters of the U.S. military into a modern, flexible and efficient work environment. PENREN's core mission is to provide the Pentagon Reservation with optimum Facilities and Information Technology through renovation, construction, and modernization. PENREN's award-winning acquisition approach and program management strategy have led to successful completion of several projects in addition to the original renovation work.

INSIDE

Project Updates
and
Photos

Sustainable Design
and Construction

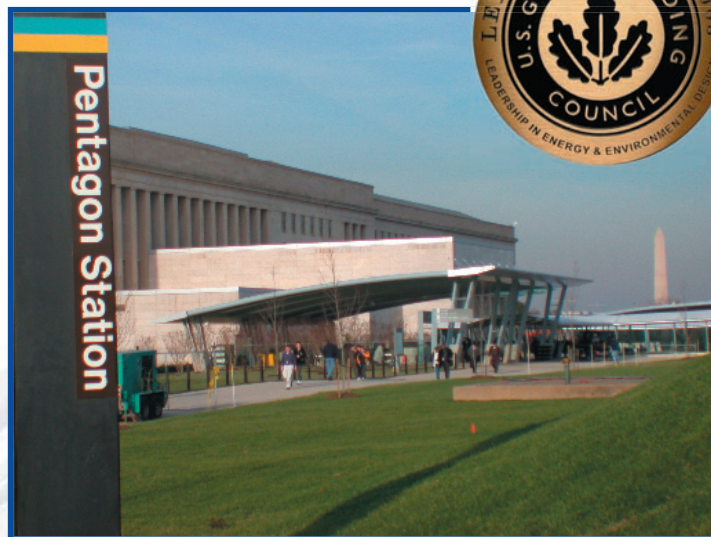
Around the world, throughout the month of April, communities are celebrating the earth by renewing their commitment to building a safer, healthier and cleaner world for everyone. Earth Day, celebrated on April 22, began more than 35 years ago to increase awareness and support for environmental programs. The Pentagon Renovation and Construction Program Office (PENREN) demonstrates its support for environmental responsibility through design and construction. The Program and its Defense Facilities Directorate (DFD) partners are committed to providing exemplary sustainable facilities for the Department of Defense by integrating environmental elements with cost, schedule, operations, maintenance and Pentagon tenant requirements.

"Through an integrated design process, which is constantly striving to improve energy efficiency, indoor air quality and the use of sustainable materials, the Pentagon Renovation and Construction Program Office is creating a model for sustainability in the industry", says Ken Catlow, Director.

In 2002, PENREN was honored with a Presidential Award for Leadership in Federal Energy Management. The prestigious award recognized the Program's efforts to "actively promote energy conservation and efficient design practices with the private sector, local governments, industry and national organizations." PENREN was cited for its "high standard for energy efficiency with its use of environmentally-preferable building materials and products, and recycling 70% of all construction debris."

Since 2001, PENREN has pursued an aggressive integrated approach for Pentagon Reservation projects. The Program has created and developed policies, procedures, organizational structures, permits, contracts and customer service to implement environmental standards. PENREN's Sustainability & Environment Integrated Product Team (SE IPT) is responsible for identifying, implementing and tracking opportunities to integrate sustainable design and construction initiatives.

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The Metro Entrance Facility (MEF) features a sustainable roof that reduces energy consumption. In December 2002, the MEF became PENREN's first LEED® certified renovation project.

PENTAGON RENOVATION PROJECT WATCH

Images and Updates on Pentagon Renovation & Construction Projects

Wedges 2-5 Renovation

Wedges 2-5 Encompass 4.5 Million Square Feet Of Pentagon Space To Be Renovated By 2010.

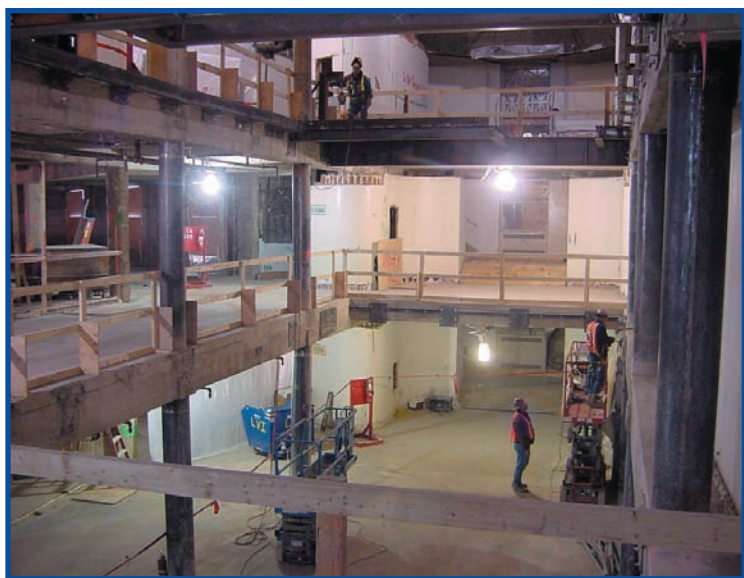
Wedge 2-3 sustainability initiatives include aggressive waste diversion, material waste salvage, resource reuse, recycled content, certified wood and the use of local/regional materials and renewable materials.

Wedge 3 Phase 1, build out for tenant spaces is on schedule and occurring over all floors. The wall close-ins began the week of March 27, 2006. The cut-out for an escalator is complete for floors three through five and steel has been installed on floors four and five. Wedge 3, Phase 2 demolition is approximately 50% complete. The escalator cut is complete on the second floor. Steel beams are installed and fireproofed. Demolition for existing equipment in the C-D light well began on March 22, 2006.



Worker installs duct insulation prior to ceiling close-in.

In March 2006, demolition for Wedge 3, Phase 2 progressed steadily. PENREN's Renovation and SE IPT teams continue to aggressively manage construction waste from Wedge 3 demolition. According to the project's monthly audit, 53% of Wedge 3's construction waste was recycled.



Work progresses on the openings for Corridor 7 and 8 escalators.

Recycled Materials

Weight (tons)

Light Tubes/ Ball	20
Cardboard	69
Metals	1,290
Wood	467
Plastics	11
Asphalt	57
Dirt	63
Concrete Waste	826
Masonry Waste	433
Sheet Rock	47
Raised Access Floor	54

OTHER MATERIALS

Solid Waste to Landfill	2,560
Hazardous Waste	352

PENTAGON RENOVATION SUSTAINABLE PROJECT WATCH

PENREN Design and Construction Highlights



Soil is placed on the Pentagon Library and Conference Center's south planter, a feature of sustainable design.

SUSTAINABLE CONSTRUCTION SUPPORTED

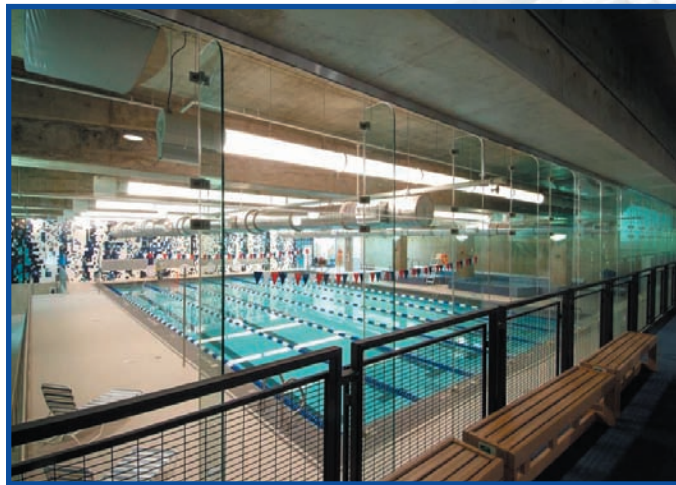
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DFD, PENREN and the design-build project teams are working together to construct sustainable facilities for all Pentagon projects. The teams' commitment to building sustainable facilities is driven by the long-term environmental benefits for Pentagon tenants. For example, studies have shown that sustainable buildings enhance environment quality, reduce resource consumption and increase occupant productivity. PENREN and DFD are partnering with the U.S. Green Building Council (USGBC), Interagency Sustainability Working Group and Office of the Federal Environmental Executive to further sustainability initiatives for all Federal organizations.

USGBC recognizes PENREN's success with implementing sustainable design for Pentagon construction projects through Leadership in Energy and Environmental Design (LEED®). The Program has constructed three of the six DoD-wide LEED® certified facilities which include the Metro Entrance Facility (MEF), Pentagon Athletic Center (PAC) and the Remote Delivery Facility (RDF). Each of the project teams succeeded in implementing sustainability features in their design and construction. For example, some of the Pentagon Athletic Center's features include a green vegetated roof, rapidly renewable materials (cork and bamboo), disinfecting ozone water treatment system for the pool and bathroom partitions made from 100% post consumer recycled plastic.

A project earns LEED® points under several different categories: sustainable sites (project location); water efficiency; energy and atmosphere; materials and resources; indoor environmental quality; innovation and design process. The points are earned by meeting or exceeding specific technical requirements and tallied for a final score. If the project earns sufficient points, it will qualify for one of the four levels of certification: "certified" (26-32 points); "silver" (33-38 points); "gold" (39-51 points); and "platinum" (52-69 points).

Currently, DFD and PENREN's project teams are compiling documentation to submit for LEED® certification for the Pentagon Library and Conference Center. The project is expected to be completed in Summer 2006. PENREN is also seeking certification for Wedge 2 which was completed in December 2005.



The Pentagon Athletic Center (PAC) features an enclosed pool equipped with a disinfecting ozone water treatment system. In August 2004, the PAC became PENREN's second LEED® certified project.



The Remote Delivery Facility (RDF) features a roof with vegetation. In November 2005, the RDF became PENREN's third LEED® certified construction project.

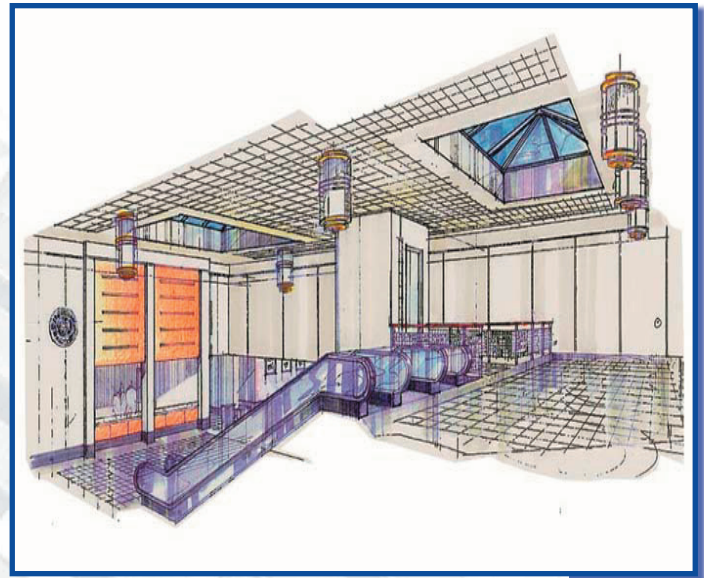
WHAT IS LEED®?

Source: U. S. Green Building Council, LEED® New Construction and Major Renovation

LEED® (Leadership in Energy and Environmental Design) is a national standard for “green building”. Its goal is to improve occupant well-being, environmental performance and economic returns of buildings using established and innovative practices, standards and technologies.

WHAT ARE THE BENEFITS OF LEED® “GREEN BUILDING”?

- Protect natural environment
- Reduce resource consumption
- Create healthy work environments
- Maximize resource reuse
- Utilize renewable energy resources
- Minimize raw material consumption
- Maximize renewable energy resources



The Pentagon Library and Conference Center (PLC2) has skylights, allowing natural day light into the subterranean facility.

TEST YOUR PENREN “GREEN BUILDING” KNOWLEDGE?

1) What was the second PENREN project to receive LEED® certification?

- a) Pentagon Library and Conference Center
- b) Metro Entrance Facility
- c) Pentagon Athletic Center

2) What year did PENREN begin pursuing an integrated approach to sustainable design and construction?

- a) 2001
- b) 2003
- c) 2006

ANSWER: 1) c 2) a

WE WANT YOUR FEEDBACK!

E-mail your questions or comments

about the

Pentagon Renovation &

Construction Program Office to:

renovation@army.pentagon.mil

or call 703-697-4357

Visit our website:

<http://renovation.pentagon.mil>

ON COST, ON SCHEDULE, BUILT FOR THE NEXT 50 YEARS!

**THE PENTAGON RENOVATION & CONSTRUCTION
PROGRAM OFFICE**

100 BOUNDARY CHANNEL DRIVE
ARLINGTON, VA 22202
703-697-4357

<http://renovation.pentagon.mil>

e-mail: renovation@army.pentagon.mil

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Director _____

Deputy Director for IT _____

Deputy Director for Major Construction _____

Ken Catlow

Sajeel Ahmed

Mike Fenn